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DRAFTSMAN	536	23.5

1/13

# FIG. 1A-1

FeB71.TAMU

ATGGGTCACGCAGCAAAGTGGAAAACACCACTACTGAAGCACCCATATCCCAAGCTCTTT 60  
Met Gly His Ala Ala Lys Trp Lys Thr Pro Leu Leu Lys His Pro Tyr Pro Lys Leu Phe

CCGCTCTTGATGCTAGCTAGTCTTTTTTACTTCTGTTCAGGTATCATCCAGGTGAACAAG 120  
Pro Leu Leu Met Leu Ala Ser Leu Phe Tyr Phe Cys Ser Gly Ile Ile Gln Val Asn Lys

ACAGTGGAAGAAGTAGCAGTACTATCCTGTGATTACAACATTTCCACCAAAGAACTGACG 180  
Thr Val Glu Glu Val Ala Val Leu Ser Cys Asp Tyr Asn Ile Ser Thr Lys Glu Leu Thr

GAAATTCGAATCTATTGGCAAAGGATGATGAAATGGTGTGGCTGTCATGTCTGGCAAA 240  
Glu Ile Arg Ile Tyr Trp Gln Lys Asp Asp Glu Met Val Leu Ala Val Met Ser Gly Lys

GTACAAGTGTGGCCCAAGTACAAGAACCGCACATTCCTGACGTCACCGATAACCACTCC 300  
Val Gln Val Trp Pro Lys Tyr Lys Asn Arg Thr Phe Thr Asp Val Thr Asp Asn His Ser

ATTGTGATCATGGCTCTGCGCCTGTCAGACAATGGCAAATACACTTGTATTATTCAAAG 360  
Ile Val Ile Met Ala Leu Arg Leu Ser Asp Asn Gly Lys Tyr Thr Cys Ile Ile Gln Lys

ATTGAAAAAGGGTCTTACAAAGTGAAACACCTGACTTCGGTGATGTTATTGGTCAGAGCT 420  
Ile Glu Lys Gly Ser Tyr Lys Val Lys His Leu Thr Ser Val Met Leu Leu Val Arg Ala

GACTTCCCTGTCCCTAGTATAACTGATCTTGGAAATCCATCTCATAACATCAAAGGATA 480  
Asp Phe Pro Val Pro Ser Ile Thr Asp Leu Gly Asn Pro Ser His Asn Ile Lys Arg Ile

ATGTGCTTAACTTCTGGAGGTTTTCCAAAGCCTCACCTCTCCTGGCTGGAAAATGAAGAA 540  
Met Cys Leu Thr Ser Gly Gly Phe Pro Lys Pro His Leu Ser Trp Leu Glu Asn Glu Glu

GAATTAAATGCCATCAACACAACAGTTTCCCAAGATCCTGAAACTGAGCTCTACACTATT 600  
Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp Pro Glu Thr Glu Leu Tyr Thr Ile

AGCAGTGAAGTGGATTTCAATATGACAAACAACCATAGCTTCCTGTGTCTTGTCAAGTAT 660  
Ser Ser Glu Leu Asp Phe Asn Met Thr Asn Asn His Ser Phe Leu Cys Leu Val Lys Tyr

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Hydrophobicity plot: Feline CD80 (B7-1)

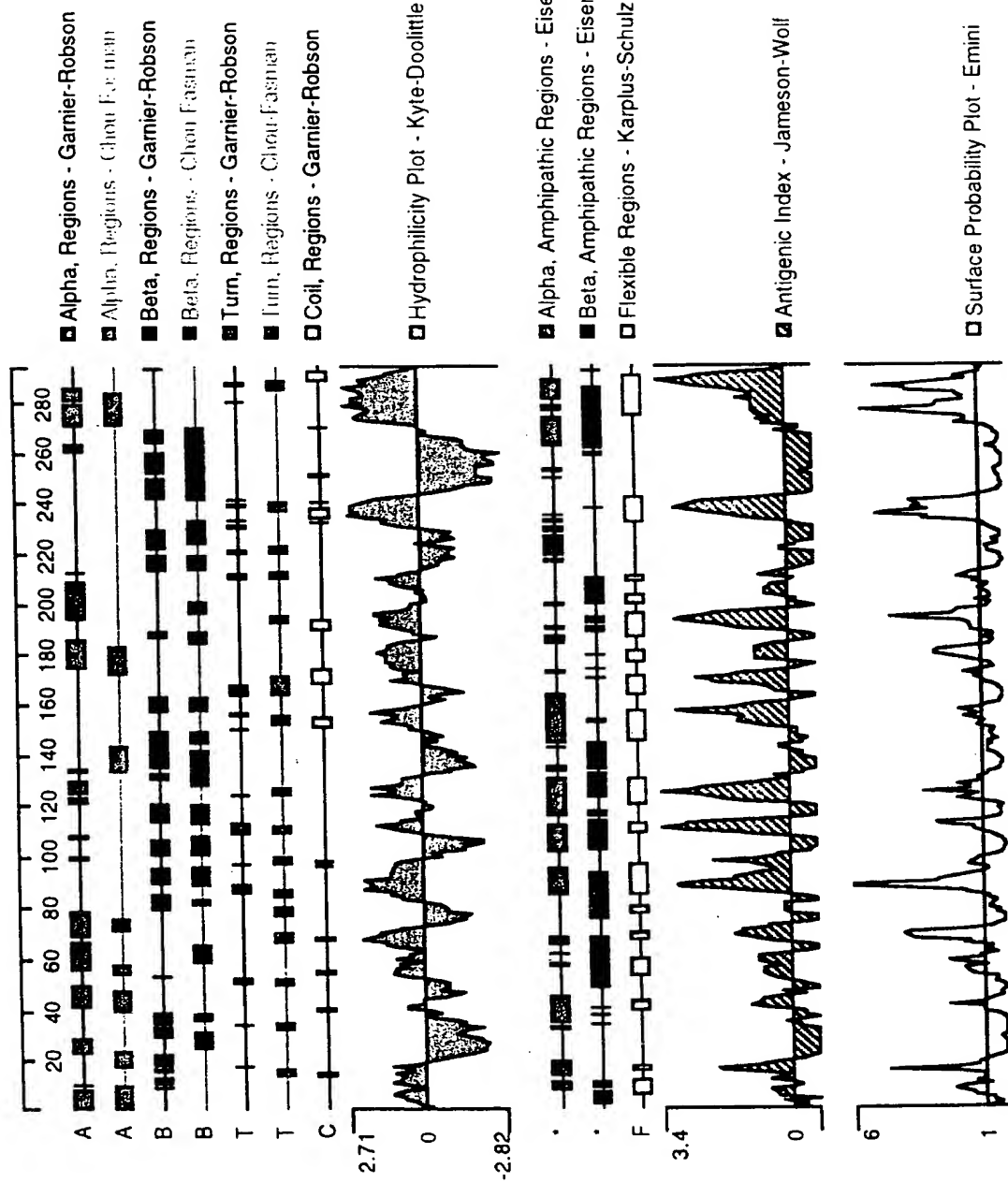


FIG. 1B

Feline B7-1 ORF

Feline B7-1 (CD80)

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4/13

## FIG. 2A-1

### FeB71-SYNTRO

ATGGGTCACGCAGCAAAGTGGAAAACACCACTACTGAAGCACCCATATCCCAAGCTCTTT 60  
Met Gly His Ala Ala Lys Trp Lys Thr Pro Leu Leu Lys His Pro Tyr Pro Lys Leu Phe

CCGCTCTTGATGCTAGCTAGTCTTTTTTACTTCTGTTTCAGGTATCATCCAGGTGAACAAG 120  
Pro Leu Leu Met Leu Ala Ser Leu Phe Tyr Phe Cys Ser Gly Ile Ile Gln Val Asn Lys

ACAGTGGAAGAAGTAGCAGTACTATCCTGTGATTACAACATTTCCACCAAAGAACTGACG 180  
Thr Val Glu Glu Val Ala Val Leu Ser Cys Asp Tyr Asn Ile Ser Thr Lys Glu Leu Thr

GAAATTGGAATCTATTGGCAAAGGATGATGAAATGGTGTGGCTGTCATGTCTGGCAA 240  
Glu Ile Arg Ile Tyr Trp Gln Lys Asp Asp Glu Met Val Leu Ala Val Met Ser Gly Lys

GTACAAGTGTGGCCCAAGTACAAGAACCGCACATTCCTGACGTCACCGATAACCACTCC 300  
Val Gln Val Trp Pro Lys Tyr Lys Asn Arg Thr Phe Thr Asp Val Thr Asp Asn His Ser

ATTGTGATCATGGCTCTGCGCCTGTCAGACAATGGCAAATACACTTGTATCATTCAAAG 360  
Ile Val Ile Met Ala Leu Arg Leu Ser Asp Asn Gly Lys Tyr Thr Cys Ile Ile Gln Lys

ATTGAAAAAGGGTCTTACAAAGTGAACACCTGACTTCGGTGATGTTATTGGTCAGAGCT 420  
Ile Glu Lys Gly Ser Tyr Lys Val Lys His Leu Thr Ser Val Met Leu Leu Val Arg Ala

GACTTCCCTGTCCCTAGTATAACTGATCTTGGAAATCCATCTCATAACATCAAAAGGATA 480  
Asp Phe Pro Val Pro Ser Ile Thr Asp Leu Gly Asn Pro Ser His Asn Ile Lys Arg Ile

ATGTGCTTAACCTTCTGGAGGTTTTCCAAAGCCTCACCTCTCCTGGCTGGAAAATGAAGAA 540  
Met Cys Leu Thr Ser Gly Gly Phe Pro Lys Pro His Leu Ser Trp Leu Glu Asn Glu Glu

GAATTAAATGCCATCAACACAACAGTTTCCCAAGATCCTGAAACTGAGCTCTACACTATT 600  
Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp Pro Glu Thr Glu Leu Tyr Thr Ile

AGCAGTGAAGTGGATTTCAATATGACAAACAACCATAGCTTCCTGTGTCTTGTCAAGTAT 660  
Ser Ser Glu Leu Asp Phe Asn Met Thr Asn Asn His Ser Phe Leu Cys Leu Val Lys Tyr

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6/13

Hydrophobicity plot: Feline CD80 (B7-1)

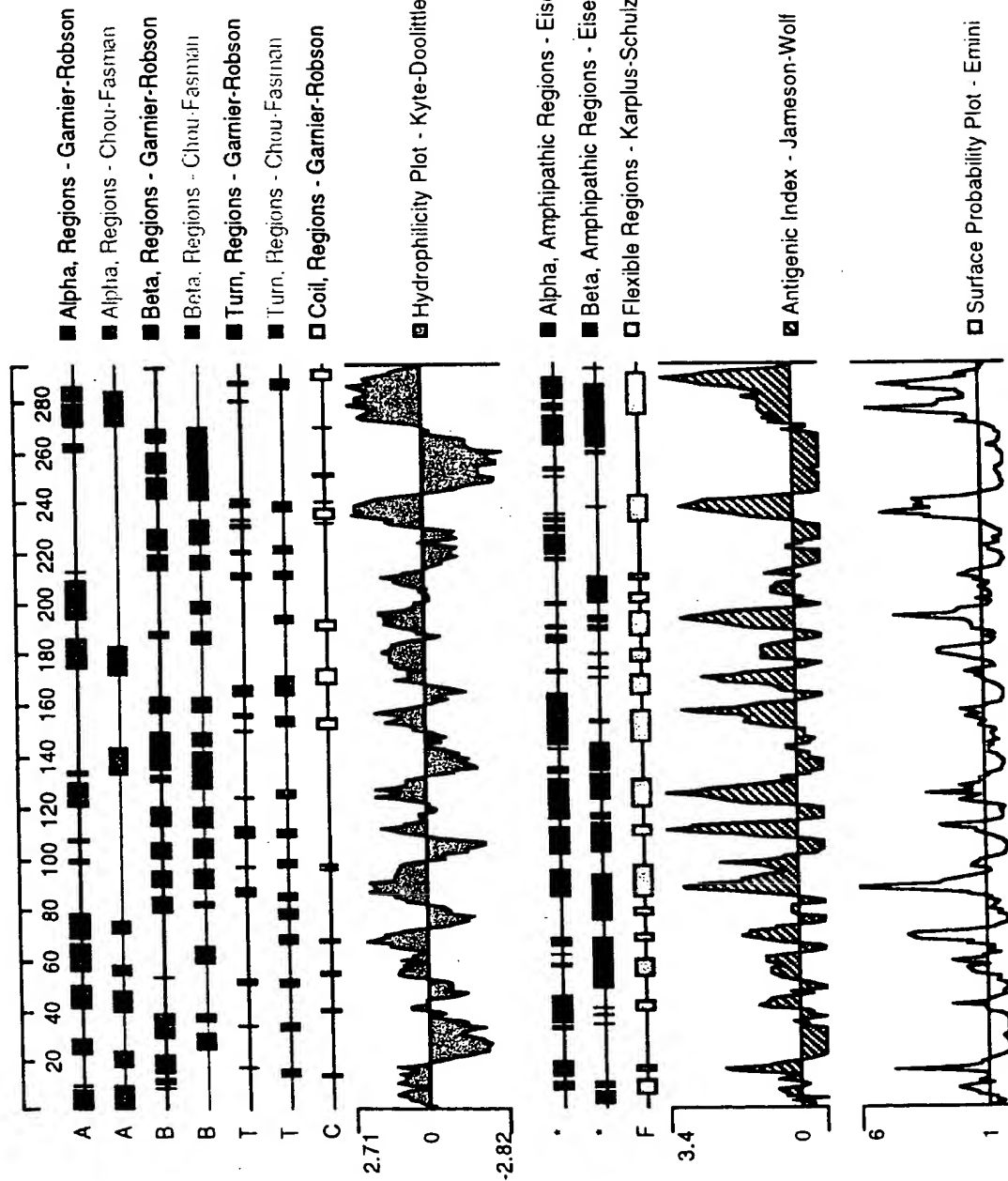


FIG. 2B

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7/13

# FIG. 3A-1

FeB72

GTTTCTGTGTTTCCTCGGGAATGTCAGTCTGAGCTTATACATCTGGTCTCTGGGAGCTGCAGT 60  
GGATGGGCATTTGTGACAGCACTATGGGACTGAGTCACACTCTCCTTGTGATGGCCCTCC 120  
Met Gly Ile Cys Asp Ser Thr Met Gly Leu Ser His Thr Leu Leu Val Met Ala Leu

---

TGCTCTCTGGTGTTCCTTCCATGAAGAGTCAAGCATATTTCAACAAGACTGGAGAACTGC 180  
Leu Leu Ser Gly Val Ser Ser Met Lys Ser Gln Ala Tyr Phe Asn Lys Thr Gly Glu Leu

---

CATGCCATTTTACAAACTCTCAAAACATAAGCCTGGATGAGCTGGTAGTATTTTGGCAGG 240  
Pro Cys His Phe Thr Asn Ser Gln Asn Ile Ser Leu Asp Glu Leu Val Val Phe Trp Gln

---

ACCAGGATAAGCTGGTTCTGTATGAGATATTCAGAGGCAAAGAGAACCCTCAAAATGTTT 300  
Asp Gln Asp Lys Leu Val Leu Tyr Glu Ile Phe Arg Gly Lys Glu Asn Pro Gln Asn Val

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ATCTCAAATATAAGGGCCGTACAAGCTTTGACAAGGACAACCTGGACCCTGAGACTCCACA 360  
His Leu Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr Leu Arg Leu His

---

ATGTTTCAGATCAAGGACAAGGGCACATATCACTGTTTCATTTCATTATAAAGGGCCCAAAG 420  
Asn Val Gln Ile Lys Asp Lys Gly Thr Tyr His Cys Phe Ile His Tyr Lys Gly Pro Lys

---

GACTAGTTCCCATGCACCAAATGAGTTCTGACCTATCAGTGCTTGCTAACTTCAGTCAAC 480  
Gly Leu Val Pro Met His Gln Met Ser Ser Asp Leu Ser Val Leu Ala Asn Phe Ser Gln

---

CTGAAATAACAGTAACCTTCTAATAGAACAGAAAATTCTGGCATCATAAATTTGACCTGCT 540  
Pro Glu Ile Thr Val Thr Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys

---

CATCTATACAAGGTTACCCAGAACCTAAGGAGATGTATTTTCAGCTAAACACTGAGAATT 600  
Ser Ser Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn Thr Glu Asn

---

CAACTACTAAGTATGATACTGTCATGAAGAAATCTCAAAATAATGTGACAGAACTGTACA 660  
Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn Asn Val Thr Glu Leu Tyr

---

ACGTTTCTATCAGCTTGCCTTTTTTCAGTCCCTGAAGCACACAATGTGAGCGTCTTTTGTG 720  
Asn Val Ser Ile Ser Leu Pro Phe Ser Val Pro Glu Ala His Asn Val Ser Val Phe Cys

---

CCCTGAAACTGGAGACACTGGAGATGCTGCTCTCCCTACCTTTCAATATAGATGCACAAC 780  
Ala Leu Lys Leu Glu Thr Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Asp Ala Gln

---

CTAAGGATAAAGACCCTGAACAAGGCCACTTCCTCTGGATTGCGGCTGTACTTGTAATGT 840  
Pro Lys Asp Lys Asp Pro Glu Gln Gly His Phe Leu Trp Ile Ala Ala Val Leu Val Met

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TTGTTGTTTTTTGTGGGATGGTGTCTTTTAAACACTAAGGAAAAGGAAGAAGAAGCAGC 900  
Phe Val Val Phe Cys Gly Met Val Ser Phe Lys Thr Leu Arg Lys Arg Lys Lys Lys Gln

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8/13

FIG. 3A-2

CTGGCCCCCTCATGAATGTGAAACCATCAAAAGGGAGAGAAAAGAGAGCAAACAGACCA 960  
Pro Gly Pro Ser His Glu Cys Glu Thr Ile Lys Arg Glu Arg Lys Glu Ser Lys Gln Thr

ACGAAAGAGTACCATACCACGTACCTGAGAGATCTGATGAAGCCCAGTGTGTTAACATTT 1020  
Asn Glu Arg Val Pro Tyr His Val Pro Glu Arg Ser Asp Glu Ala Gln Cys Val Asn Ile

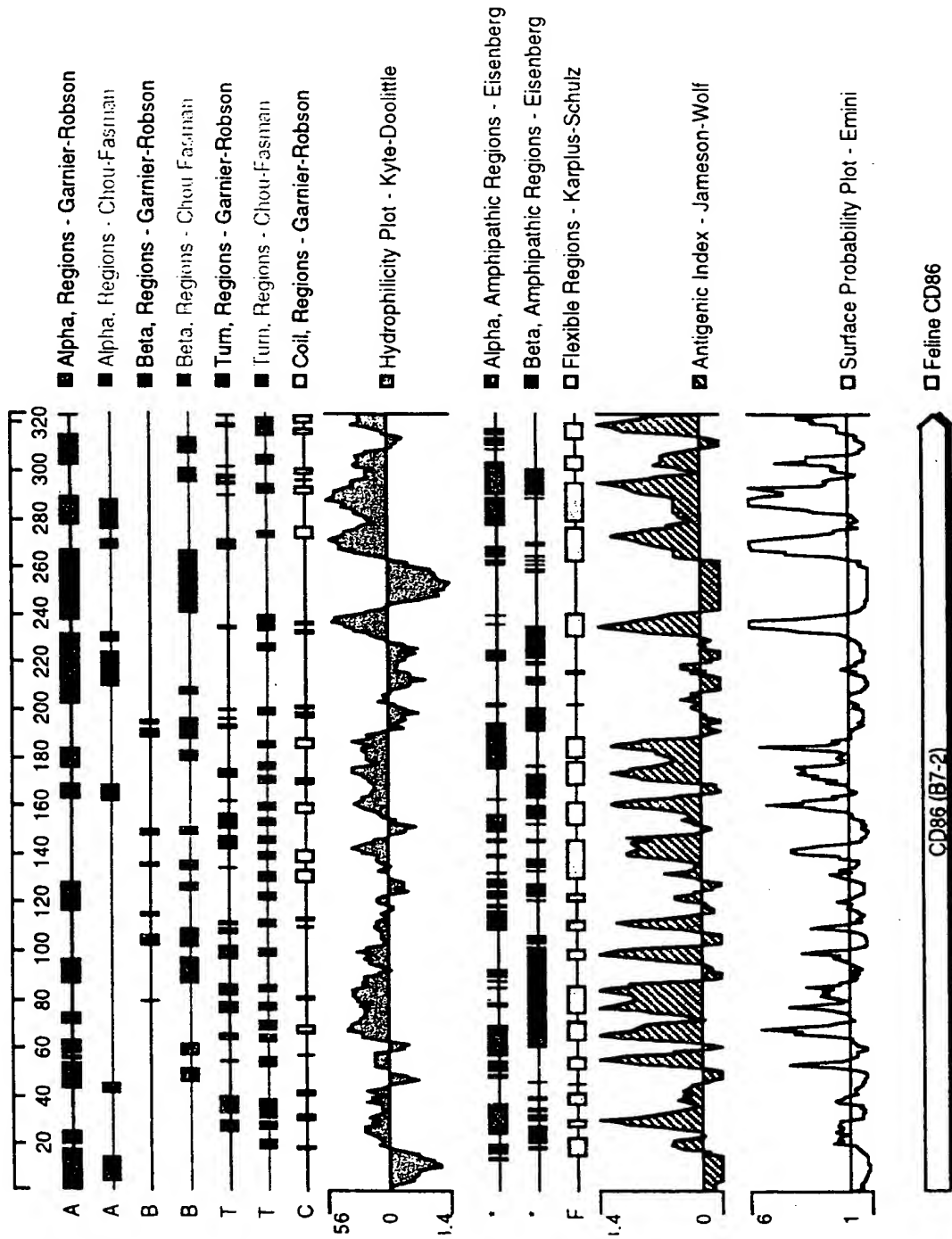
TGAAGACAGCCTCAGGGGACAAAAATCAGTAGGAAAATGGTGGCTTGGCGTGCTGACAAT 1080  
Leu Lys Thr Ala Ser Gly Asp Lys Asn Gln •

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FIG. 3B

Hydrophobicity plot: Feline CD86 (B7-2)



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10/13

# FIG. 4A

FeCD28

ATGATCCTCAGGCTGCTTCTGGCTCTCAACTTCTTCCCCTCAATTCAAGTAACAGAAAAAC 60  
Met Ile Leu Arg Leu Leu Leu Ala Leu Asn Phe Phe Pro Ser Ile Gln Val Thr Glu Asn

AAGATTTTGGTGAAGCAGTTGCCCAGGCTTGTGGTGTACAACAATGAGGTCAACCTTAGC 120  
Lys Ile Leu Val Lys Gln Leu Pro Arg Leu Val Val Tyr Asn Asn Glu Val Asn Leu Ser

TGCAAGTACACTCACAACCTTCTTCTCAAAGGAGTTCCGGGCATCCCTTTATAAGGGAGTA 180  
Cys Lys Tyr Thr His Asn Phe Phe Ser Lys Glu Phe Arg Ala Ser Leu Tyr Lys Gly Val

GATAGTGCTGTGGAAGTCTGCGTTGTGAATGGAAATTACTCCCATCAGCCTCAGTTCTAC 240  
Asp Ser Ala Val Glu Val Cys Val Val Asn Gly Asn Tyr Ser His Gln Pro Gln Phe Tyr

TCAAGTACAGGATTCGACTGTGATGGGAAATTGGGCAATGAAACAGTGACATTCTACCTC 300  
Ser Ser Thr Gly Phe Asp Cys Asp Gly Lys Leu Gly Asn Glu Thr Val Thr Phe Tyr Leu

CGAAATTTGTTTGTAAACCAAACGGATATTTACTTCTGCAAATGAAGTCATGTATCCA 360  
Arg Asn Leu Phe Val Asn Gln Thr Asp Ile Tyr Phe Cys Lys Ile Glu Val Met Tyr Pro

CCTCCTTACATAGACAATGAGAAGAGCAATGGGACCATTATCCACGTGAAAGAGAAACAT 420  
Pro Pro Tyr Ile Asp Asn Glu Lys Ser Asn Gly Thr Ile Ile His Val Lys Glu Lys His

CTTTGTCCAGCTCAGCTGTCTCCTGAATCTTCCAAGCCATTTTGGGCACTGGTGGTGGTT 480  
Leu Cys Pro Ala Gln Leu Ser Pro Glu Ser Ser Lys Pro Phe Trp Ala Leu Val Val Val

GGTGAATCCTAGGTTTCTACAGCTTGCTAGCAACAGTGGCTCTTGGTGCTTGCTGGATG 540  
Gly Gly Ile Leu Gly Phe Tyr Ser Leu Leu Ala Thr Val Ala Leu Gly Ala Cys Trp Met

AAGACCAAGAGGAGTAGGATCCTTCAGAGTGAATATGAACATGACCCCCCGGAGGCCA 600  
Lys Thr Lys Arg Ser Arg Ile Leu Gln Ser Asp Tyr Met Asn Met Thr Pro Arg Arg Pro

GGGCCCACCCGAAGGCACTACCAACCTTACGCCCCAGCAGCGACTTTGCGGCATACCGT 660  
Gly Pro Thr Arg Arg His Tyr Gln Pro Tyr Ala Pro Ala Arg Asp Phe Ala Ala Tyr Arg

TCCTGACATGGACCCCTATCCAGAAGCC 688

Ser

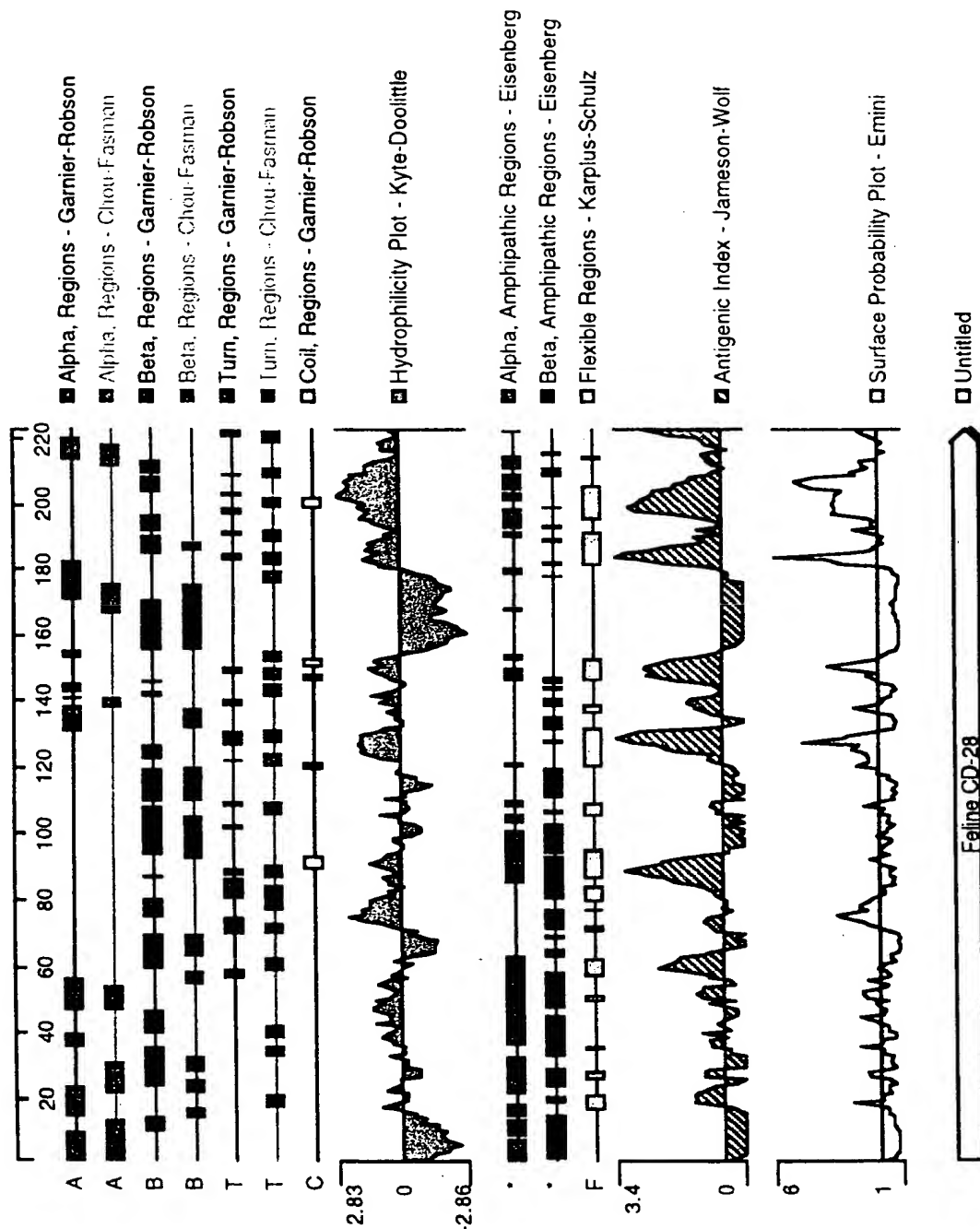
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11/13

FIG. 4B Hydrophobicity Plot: CD28



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12/13  
FIG. 5A

Fe:CTLA4

AACCTGAACACTGCTCCCATAAAGCCATGGCTTGCTTTGGATTCCGGAGGCATGGGGCTC 60  
Met Ala Cys Phe Gly Phe Arg Arg His Gly Ala

AGCTGGACCTGGCTTCTAGGACCTGGCCCTGCACTGCTCTGTTTTCTCTTCTCTTTATCC 120  
Gln Leu Asp Leu Ala Ser Arg Thr Trp Pro Cys Thr Ala Leu Phe Ser Leu Leu Phe Ile

CCGTCTTCTCCAAAGGGATGCATGTGGCCCAACCCTGCAGTGGTGCTGGCCAGCAGCCGAG 180  
Pro Val Phe Ser Lys Gly Met His Val Ala His Pro Ala Val Val Leu Ala Ser Ser Arg

GTGTCGCCAGCTTCGTGTGTGAATATGGGTCTTCAGGCAATGCCGCCAAATTCCGAGTGA 240  
Gly Val Ala Ser Phe Val Cys Glu Tyr Gly Ser Ser Gly Asn Ala Ala Lys Phe Arg Val

CTGTGCTGAGGCCAAACTGGCAGCCAAATGACTGAAGTCTGTGCTGCGACATACACAGTGG 300  
Thr Val Leu Arg Gln Thr Gly Ser Gln Met Thr Glu Val Cys Ala Ala Thr Tyr Thr Val

AGAATGAGTTGGCCTTCCTAAATGATTCCACCTGCACTGGCATCTCCAGCGGAAACAAAG 360  
Glu Asn Glu Leu Ala Phe Leu Asn Asp Ser Thr Cys Thr Gly Ile Ser Ser Gly Asn Lys

TGAACCTCACCATCCAAGGGTTGAGGGCCATGGACACGGGACTCTACATCTGCAAGGTGG 420  
Val Asn Leu Thr Ile Gln Gly Leu Arg Ala Met Asp Thr Gly Leu Tyr Ile Cys Lys Val

AGCTCATGTACCCACCACCCTACTATGCAGGCATGGGCAATGGAACCCAGATTTATGTCA 480  
Glu Leu Met Tyr Pro Pro Pro Tyr Tyr Ala Gly Met Gly Asn Gly Thr Gln Ile Tyr Val

TCGATCCTGAACCTTGCCAGATTCTGACTTCCTCCTCTGGATCCTCGCAGCAGTCAGTT 540  
Ile Asp Pro Glu Pro Cys Pro Asp Ser Asp Phe Leu Leu Trp Ile Leu Ala Ala Val Ser

CAGGATTGTTTTTTTATAGCTTCCTTATCACAGCTGTTTCTTTGAGCAAAATGCTAAAGA 600  
Ser Gly Leu Phe Phe Tyr Ser Phe Leu Ile Thr Ala Val Ser Leu Ser Lys Met Leu Lys

AAAGAAGCCCTCTTACTACAGGGGTCTATGTGAAAATGCCCCAACAGAGCCAGAATGTG 660  
Lys Arg Ser Pro Leu Thr Thr Gly Val Tyr Val Lys Met Pro Pro Thr Glu Pro Glu Cys

AAAAGCAATTTGAGCCTTATTTTATTCCCATCAATTGACACACCGTTATGAAGAAGGAAG 720  
Glu Lys Gln Phe Gln Pro Tyr Phe Ile Pro Ile Asn

AACACTGTCCAATTTCTAAGAGCTGAGGC 749

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Hydrophobicity Plot: CTLA-4 (CD152)

FIG. 5B

